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10/760,057

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EXAMINER

CHOU, ALBERT T

ART UNIT

PAPER NUMBER

2616

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/760,057	<b>Applicant(s)</b> KUBLER ET AL.	
	<b>Examiner</b> ALBERT T. CHOU	<b>Art Unit</b> 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2008 for the amendment.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 22-93 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-93 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Amendment*

1. Applicant's amendment filed on May 19, 2008 has been entered. No claims have been amended. No claims have been canceled. No claims have been added. Claims 22-93 are pending in this application, with claims 22, 40, 52, 68 and 79 being independent.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 22-24, 29-42, 47-52, 57-69, 74-82 and 87-93 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,157,653 to Kline et al. (hereinafter "Kline").

Regarding claims 22 and 52, Kline teaches a packet voice processing circuit and a method of processing voice for communication over a packet network [**Figs. 1-6**] comprising:

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an interface for receiving voice data packets via a packet network **[Fig. 2; Access Interface 214]**, each of the voice data packets comprising digital voice data and **[Figs. 2-3; Voice Packet Processor 212 converts the received voice to packets or receives the voice packet; col. 4, lines 28-44]** a group identifier **[Figs. 2-3; Voice Packet Processor 212 assigns a sequence number and a connection identifier for the voice packet; col. 4, line 57 – col. 5, line 4, col. 6, lines 23-29];**

a queue for storing the digital voice data **[Fig. 4; Smoothing Buffer 402];**

a processor for detecting a change in the group identifier **[Figs. 1-5; Sequence number 306 allows Voice Packet Processor (PVR) 212 in the destination node 108 to detect a change when a packet has been dropped by the network; col. 6, lines 23-39];**

the processor changing the processing of digital voice data, if a change in group identifier is detected **[Figs. 1-5; If at a PVR 212, a sequence number is found missing, it will interpolate the speech to fill in the audio channel for the missing packet. Or, Fig. 5, steps 505-510, it will discard the packet if the sequence number is invalid; col. 6, lines 23-39];** and

the processor continuing prior processing of digital voice data, otherwise **[Fig. 5, steps 515-555].**

Regarding claims 23, 24, 41, 42, 87 and 88, Kline teaches the packet-network is a wired network **[Fig. 1]** and the wired network comprises an Ethernet compatible network **[Fig. 1; LAN devices; col. 4, lines 41-42].**

Regarding claims 29, 30, 47, 48, 57, 58, 74, 75, 89 and 90, Examiner takes Office Notice of fact without documentary evidence that the packet network uses a transmission control protocol (TCP)/Internet protocol (IP).

Regarding claims 31 and 59, Kline teaches changing the processing of digital voice data comprises delaying the conversion of queued digital voice data by an adjustable queuing time **[Figs. 2-6; Fig. 5, steps 515-555, Adjusting queuing/smoothing time using Smoothing Buffer 402, computing Waiting Time and comparing Longest Smoothed Waiting time; col. 5, line 59 – col. 6, line 22, col. 6, line 63 – col. 6, line 64]**.

Regarding claims 32-37 and 60-65, Kline teaches the adjustable queuing time is a function of a propagation delay of the packet network **[Fig. 5, step 545-555; col. 7, lines 9-64]**, the adjustable queuing time is initialized to a predefined value **[Fig. 5; a predetermined time, typically in minutes; col. 7, lines 9-64]**, the predefined value is approximately 200 milliseconds **[Fig. 5; typically in minutes; col. 7, lines 9-64]**, the adjustable queuing time is determined using a test packet sent over the packet network **[Figs. 1-6; queuing time can be determined either a known network wide parameter or it can be calculated by specific path, a test path, chosen by the routing entity; col. 7, lines 9-64]**, the test packet is sent prior to establishment of voice communication and the test packet is interspersed with digital voice data packets **[Figs. 1-6; since it can be**

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**determined by a known network wide parameter, it is tested prior to the establishment of voice communication; col. 7, lines 9-64].**

Regarding claims 38, 39, 50, 51, 66, 69, 77, 78, 82, 91 and 92, Kline teaches the group identifier is a pseudo random number **[Fig. 3; sequence number 306]** and the circuit further comprising a converter for converting digital voice data to an analog voice stream **[Fig. 1 & 4, step 408; convert digital voice data to analog voice; col. 5, lines 59-67]** or converting an analog voice stream to digital voice data **[Fig. 2; Packet Voice Processor 212 converts analog voice stream to digital voice data].**

Regarding claim 40, Kline teaches a packet voice processing circuit **[Figs. 1-6]** comprising:

a processor for processing digital voice data to detect a lack of voice activity for a minimum period of time **[Figs. 2-4; Voice Packet Processor detects the presence or silence of voice (so-called talkspurts); col. 5, lines 17-20];**

an interface **[Fig. 2; Access Interface 214]** for transmitting voice data packets via a packet network **[Fig. 1; A packet network]**, each of the voice data packets comprising digital voice data **[Figs. 2-3; Voice Packet Processor 212 converts the received voice to packets or receives the voice packet; col. 4, lines 28-44]** and a group identifier **[Figs. 2-3; Voice Packet Processor 212**

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**assigns a sequence number and a connection identifier for the voice packet; col. 4, line 57 – col. 5, line 4, col. 6, lines 23-29];**

the processor changing the group identifier if a lack of voice activity for a minimum period of time is detected **[Figs. 2-4; Voice Packet Processor detects the presence or silence of voice (so-called talkspurts) and increments the sequence number, i.e. change the identifier, even during silence intervals. When next talkspurt occurs, the transmitted packets will contain the new sequence numbers; col. 5, lines 17-33]** and

the processor leaving the group identifier unchanged, otherwise **[Figs. 2-4; Send packets with sequence numbers when Voice Packet Processor detects the presence of active speech signals; col. 5, lines 17-33].**

Regarding claims 49, 76, 80 and 81, Kline teaches identifying at least one difference between speech and background noise and the minimum period of time of a lack of voice activity is approximately one second **[Fig. 5; Identifying a silence gap in the speech or if a predetermined time, typically in minutes, has elapsed; col. 7, lines 9-64].**

Regarding claim 68, Kline teaches a method of processing voice for communication over a packet network **[Figs. 1-6]**, the method comprising:

monitoring digital voice data for a lack of voice activity for a minimum period of time **[Figs. 2-4; Voice Packet Processor detects the presence or silence of voice (so-called talkspurts); col. 5, lines 17-20];**

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assigning a different group identifier to the digital voice data following a lack of voice for the minimum period of time **[Figs. 2-4; Voice Packet Processor detects the presence or silence of voice (so-called talkspurts) and increments the sequence number, i.e. change the identifier, even during silence intervals. When next talkspurt occurs, the transmitted packets will contain the new sequence numbers; col. 5, lines 17-33];**

packetizing the digital voice data and the group identifier to produce digital voice data packets **[Figs. 2-3; Voice Packet Processor 212 converts the received voice to packets or receives the voice packet; col. 4, lines 28-44; Voice Packet Processor 212 assigns a sequence number and a connection identifier for the voice packet; col. 4, line 57 – col. 5, line 4, col. 6, lines 23-29];** and

transmitting the digital voice data packets via the packet network **[Figs. 1-5; Send packets with sequence numbers when Voice Packet Processor detects the presence of active speech signals; col. 5, lines 17-33].**

Regarding claims 79 and 93, Kline teaches a method of processing voice for communication over a packet network **[Figs. 1-6],** the method comprising:

monitoring digital voice data to detect a lack of speech for a minimum period of time **[Figs. 2-4; Voice Packet Processor detects the presence or silence of voice (so-called talkspurts); col. 5, lines 17-20];**

processing the digital voice data and an identifier to produce digital voice packets for transmission via the packet network **[Figs. 1-3; Voice Packet**



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**Processor 212 converts the received voice to packets or receives the voice packet; col. 4, lines 28-44; Voice Packet Processor 212 assigns a sequence number and a connection identifier for the voice packet; col. 4, line 57 – col. 5, line 4, col. 6, lines 23-29];**

changing the processing of digital voice data and the identifier, if a lack of speech for a minimum period of time is detected **[Figs. 2-4; Voice Packet Processor detects the presence or silence of voice (so-called talkspurts) and increments the sequence number, i.e. change the identifier, even during silence intervals. When next talkspurt occurs, the transmitted packets will contain the new sequence numbers; col. 5, lines 17-33];** and

continuing prior processing of digital voice data and the identifier, otherwise **[Figs. 1-5; Send packets with sequence numbers when Voice Packet Processor detects the presence of active speech signals; col. 5, lines 17-33].**

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 25-28, 43-46, 53-56, 70-73 and 83-86 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,157,653 to Kline et al. (hereinafter "Kline") in view of US Patent No. 6,366,771 to Angle et al. (hereinafter "Angle"), and further, in view of US Patent No. 6,132,306 to Trompower.

Regarding claims 25-28, 43-46, 53-56, 70-73 and 83-86, Kline teach each limitation set forth in its respective parent claim.

Kline further teaches voice and data source devices that may be connected to access interface(s) 214 such terminals, LANs, modems, PBXs, and telephones **[Fig.2; col. 4, lines 40-44]**. However, Kline does not expressly teach whether such terminals are wireless terminals.

Angle teaches a wireless network **[Fig. 1]** including a backbone and a plurality of access points coupled to the backbone. The wireless network further includes a plurality of portable data terminals having voice communication circuitry. The portable data terminals also include an RF transceiver for wirelessly communicating both data and audio communication with the backbone via one of the plurality of access points. The wireless network includes a gateway coupled to the backbone which receives at least a portion of the audio communication transmitted from the plurality of portable data terminals. The gateway further serves to establish a pseudo full duplex audio communication link between the plurality of portable data terminals and a device coupled to a public telephone

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exchange via a PBX interface **[Fig. 1; Abstract, col. 5, lines 1-12, 33-56, 65 - col. 6, line 24]**.

Trompower teaches a cellular communication system which includes a LAN or a WAN **[Fig. 2; Cellular Communication System 200]**. Trompower further teaches transmissions between the devices in the Cellular Communication System 200 occur in a packet format using Direct Sequence Spread Spectrum (DSSS) wireless communication techniques, a Frequency Hopping System or a hybrid system using direct sequence or frequency **[Col. 10, lines 40-47]** with bands including the 902-928 MHz and 2.4 -2.48 GHz ranges in the U.S **[Col. 3, lines 3-6]**.

It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to incorporate a wireless cellular/voice network communication system as disclosed by Angle and Trompower into Kline's invention as voice source devices.

The motivation for combining the reference teachings would be to expand the voice and data sources devices to both wired and wireless devices to take advantage of the invented method and apparatus for adaptive smoothing delay for packet voice applications as disclosed by Kline.

***Response to Remarks***

4. Applicant's remarks filed May 10, 2008 regarding the rejection of claims 22, 40, 52, 68, 79 and their dependent claims in the application have been fully considered but they are not persuasive.

Rejection of claims 22-24, 29-42, 47-52, 57-69, 74-82 and 87-93 under 35

U.S.C. 102(e)

Regarding claims 22 and 52, Applicants argue that Kline has failed to teach at least "*...changing the processing of digital voice data, if a change in group identifier is detected, the processor continuing prior processing of digital voice data, otherwise...*", in accordance with Applicants' claims 22 and 52.

Examiner respectfully disagrees.

As recited in the statement of rejection to claims 22 and 52, Kline teaches that if at a PVR 212, an expected sequence number is found missing, it will interpolate the speech to fill in the audio channel for the missing packet. Or, Fig. 5, steps 505-510, it will discard the packet if the sequence number is invalid **[Figs. 1-5; col. 6, lines 23-39]**. This clearly indicates that, from the PVR's perspective, it detects an unexpected or changed sequence number/group identifier in the packet which it expects to receive, and process the packet accordingly; regardless what causes the change of the expected sequence number or group number in the received packet. Thus, Kline teaches each element set forth in claims 22 and 52.

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Regarding claims 35-37 and 63-65, Applicants argue that Kline does not teach or suggest, at least, "*...wherein the adjustable queuing time is determined using a test packet sent over the packet network...*", as recited by Applicants' claims 35 and 63. Examiner respectfully disagrees.

Kline discloses that for a specific call (i.e. a specific path through the network) the variable portion of the delay can be assumed to be bounded between 0 and some maximum known value which we will refer to as the maximum cell delay variation, CDV max. The value of CDV max may be a known network wide parameter **[col. 7, lines 9-43]**. Since the CDV max can be determined by a known network-wide parameter, it is inherent in Kline that tests using voice data packet across the network must be accomplished in order to obtain CDV for determining the various portion of the delay. Thus, Kline teaches each limitation set forth in claims 35-37 and 63-65.

Regarding claim 40, although Applicants agree Fig. 2 of Kline does contain a block 212 labeled "Packet Processor", Applicants argue that Figs. 2-4 of Kline do not teach or suggest "*...a processor for processing digital voice data to detect a lack of voice activity for a minimum period of time...*", as recited by Applicants' claim 40. Examiner respectfully disagrees.

As Applicants pointed out **[page 21, 2<sup>nd</sup> paragraph of Applicants' Remarks]**, the voice packet processor of Kline includes a voice activity detection mechanism that detects the presence or absence of voice. Since the voice packet processor of Kline is able to detect the presence or absent of voice, one

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personal of ordinary skill in the art will appreciate that the voice packet processor of Kline is inherently able to determine the inter-speech silence (i.e. lack of voice activity), regardless what the minimum time period (an "indefinite" and/or "relative" term) will be, and then to take the appropriate action accordingly **[col. 5, lines 17-33]**. Thus, Kline teaches the limitation "*...a processor for processing digital voice data to detect a lack of voice activity for a minimum period of time...*" set forth in claim 40.

Claims 23, 24, 29-34, 38 and 39 depend from claim 22. Claims 41, 42 and 47-51 depend from claim 40. Claims 57-62, 66 and 67 depend from 52. In addition to the statement of rejection to each independent claims 22, 40 and 52, Examiner maintains the same position of rejection to each of dependent claims 24, 29-39, 41, 42, 47-51, 57-62, 66 and 67 as recited above, under 35 U.S.C. 102(e) rejection.

Regarding claims 68 and 79, they recite limitations similar in many ways to the limitations of claims 22, 40, and 52 discussed above, and thus claims 68 and 79 are rejected for at least the reasons set forth above with respect to claims 22, 40, and 52.

Claims 69-78 and 80-93 depend, respectively, from claims 68 and 79, and are also rejected, for at least the same reasons, in addition to the statement of

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rejection to each of dependent claims 69-78 and 80-93 as recited above, under 35 U.S.C. 102(e) rejection.

Rejection of claims 25-28, 43-46, 53-56, 70-73 and 83-86 are rejected under 35 U.S.C. 103(a)

Claims 25-28, 43-46, 53-56, 70-73, and 83-86 depend respectively, from claims 22, 40, 52, 68, and 79. In addition to the statement of rejection to claims 22, 40, 52, 68 and 79, Examiner maintains the same position of rejection to each of dependent claims 25-28, 43-45, 53-56, 70-73, and 83-86 as recited above, under 35 U.S.C. 103(a) rejection.

It is concluded that Kline's reference in its entirety does anticipate independent claims 1, 22, 40, 52, 68, 79 and their respective dependent claims 22-24, 29-42, 47-52, 57-69, 74-82 and 87-93. Kline's reference, in combination with Angle's and Trompower's references, continues to read claims 25-28, 43-45, 53-56, 70-73 and 83-86 through obviousness. Therefore, claims 22-93 are not allowable over these references.

***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert T. Chou whose telephone number is 571-272-6045. The examiner can normally be reached on 8:30 - 17:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham, can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Albert T Chou/

Examiner, Art Unit 2616

July 1, 2008

/Chi H Pham/

Supervisory Patent Examiner, Art Unit 2616

7/2/08